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I claim:

1. A polymeric solution capable of gelling upon exposure to a critical minimum value of a plurality of environmental stimuli, said polymeric solution capable of having gelation reversed if at least one of such environmental stimuli fall below said critical 5 minimum value.
2. The compound of Claim 1, wherein the plurality of environmental stimuli are selected from the group consisting of temperature, pH, ionic strength, electrical field, magnetic field, solvent composition, light, pressure and chemical composition of the 10 ambient environment.
3. The compound of Claim 1, wherein gelation occurs upon exposure to at least two ambient environmental stimuli.
- 15 4. The compound of Claim 1, wherein gelation occurs upon exposure to a critical minimum value of two environmental stimuli.
5. The compound of Claim 1, wherein gelation occurs upon exposure to at least two *in vivo* environmental stimuli.
- 20 6. The compound of Claim 1, wherein gelation occurs upon exposure to at least two *in vivo* environmental stimuli that are imposed externally.
7. The compound of Claim 1, wherein the plurality of environmental stimuli are 25 *in vivo* conditions found in a human body.
8. The compound of Claim 1, wherein the plurality of environmental stimuli are *in vivo* conditions found in non-human mammalian bodies.

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9. The compound of Claim 1, wherein the compound is injected into a specific locus in a human body.

10. The compound of Claim 9, wherein the compound includes a therapeutically 5 active agent for treatment of a medical condition.

11. The compound of Claim 10, wherein the compound includes a radioisotope for treatment of a medical condition.

10 12. The compound of Claim 10, wherein the compound is injected into a tubular conduit so as to cause a blockage therein.

13. The compound of Claim 12, wherein the compound is injected into an aneurysm in a blood vessel.

15 14. A method of forming a reversible gel from an aqueous polymeric solution, comprising the step of exposing the aqueous polymeric solution to a critical minimum value of a plurality of environmental stimuli to form a gel, said gel capable of being reversed to said aqueous polymeric solution by reducing the value of more than one of the 20 environmental stimuli below a critical minimum value.

15. The method of Claim 14, further comprising selecting the environmental stimuli from the group consisting essentially of temperature, pH, ionic strength, electrical field, magnetic field, solvent compositions, chemical compositions, light and pressure.

25 16. The method of Claim 14, further comprising exposing the environmental stimuli *in vivo* within a mammalian body.

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17. The method of Claim 14, further comprising providing the environmental stimuli externally from outside the mammalian body.

18. The method of Claim 14, further comprising injecting the aqueous polymeric
5 solution into a specific locus in the human body.

19. The method of Claim 14, further comprising injecting the aqueous polymeric solution into an embolization in a blood vessel.

10 20. The method of Claim 14, further comprising placing a therapeutically active agent for treatment of a medical condition into the polymeric compound.

21. The method of Claim 14, further comprising placing a radioisotope for treatment of a medical condition into the polymeric compound.

15 22. The method of Claim 1, further comprising providing said polymeric solution as an aqueous solution.

20 23. The method of Claim 14, further comprising providing a [meth]acrylamide and suitable hydrophobic comonomer.

24. The method of Claim 14, further comprising providing the polymeric solution as an aqueous solution.

25 25. The method of Claim 24, further comprising providing said polymer as a comonomer of 2-(dimethylamino)ethyl acrylate (DMAEA) and N-isopropylacrylamide.

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26. An aqueous polymeric solution capable of gelling upon exposure to a critical minimum value of at least two *in vivo* environmental stimuli, said aqueous polymeric solution capable of having gelation reversed if more than one of such *in vivo* environmental stimuli fall below said critical minimum value.

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27. A method of forming a reversible gel from an aqueous polymeric solution, comprising the step of exposing the aqueous polymeric solution to a critical minimum value of at least two *in vivo* environmental stimuli to form a gel, said gel capable of being reversed to said liquid polymeric compound by reducing the value of more than one of the *in vivo* environmental stimuli above a critical minimum value.

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